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From Earth Missions to Deep Space Exploration (05)
International Plans and Concepts (4)

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SELECTION OF A GLOBAL EXPLORATION STRATEGY PLAN: METHOD AND RESULTS

Abstract

The task of creating in-orbit long term or infinite operating object which purpose may evolve in time is considered. The approach to "open" architecture organization for such objects has been proposed. It allows adopting the object according to the actual task list. It has been shown that the "open" architecture of an orbital base allows minimizing expenditures on its construction, operation and reconfiguration, and operating the object which are created in orbit for indefinite period. The combination of the "open" architecture and on-purpose modules forming the object architecture allows creating interrelating, optimized space module and transportation system which is capable to solve almost any space exploration task in real time using the maximum of in-orbit resources having been created by the current time. Besides, the approach proposed allows putting manned space flight systems into industrial base and minimizing the necessity of creating of unique and expensive objects.